

11

other embodiments electrode may only extend to the upper surface of source region **105**. It should also be appreciated that electrode **109** does not separate region **105** into two separate source regions in the illustration of FIG. **5K**. Rather, electrode **109** is fabricated in the form of a plug that is surrounded by N+ material that comprises region **105**. 5

I claim:

1. A method comprising:

forming, in a semiconductor substrate of a first conductivity type, first and second trenches that define a mesa 10 having respective first and second sidewalls;

partially filling each of the trenches with a dielectric material that covers the first and second sidewalls;

filling a remaining portion of the trenches with a conductive material to form first and second field plates in the first and second trenches, respectively, the first and second field plates extending vertically from near a bottom of the mesa to a top surface of the semiconductor substrate; 15

forming source and body regions in an upper portion of the mesa, the source region being of the first conductivity 20

12

type and the body region being of a second conductivity type opposite to the first conductivity type, the body region separating the source from a lower portion of the mesa, the lower portion of the mesa comprising a drift region, the dielectric material and the field plates being formed with a reduced spacing between the field plates and the mesa near the body region as compared to near the lower portion of the mesa;

forming a gate embedded within the dielectric material adjacent the body region, the gate being insulated from the body region and the first and second field plates;

forming a drain region of the first conductivity type at the bottom of the mesa, the drain region being connected to the drift region;

forming a source electrode connected to the source region; and

forming a drain electrode connected to the substrate.

2. The method of claim **1** wherein the first conductivity type is n-type.

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